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Title of Application:
SYSTEM AND METHOD FOR SCHEMA MAPPING

Transmitted is the following:

10 Page(s) Supplemental Appeal Brief
3 Page(s) Rule 132 Declaration
1 Page(s) Appendix C

The Notice of Appeal and Appeal Brief fees were paid on April 18, 2005, thus no fees are needed.

Respectfully submitted,

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Applicant: Haas	)	Art Unit: 2175
Serial No.: 09/658,303	)	Examiner: Mahmoudi
Filed: September 8, 2000	)	**ARC9-2000-0125-US1**
For: **SYSTEM AND METHOD FOR SCHEMA MAPPING**	)	August 8, 2005 750 B STREET, Suite 3120 San Diego, CA 92101

SUPPLEMENTAL APPEAL BRIEF

Commissioner of Patents and Trademarks
Washington, DC 20231

Dear Sir:

The appeal is reinstated in response to the attempt to reopen prosecution dated July 1, 2005. All fees having been paid previously, no fees are due.

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(1) Real Party in Interest

The real party in interest is IBM Corp.

(2) Related Appeals/Interferences

No other appeals or interferences exist which relate to the present application or appeal.

(3) Status of Claims

Claims 1-22 are pending, of which Claims 1, 2, 8-11, 17, and 18 have been rejected while the remaining claims have been indicated as reciting allowable subject matter.

(4) Status of Amendments

No amendments are outstanding.

(5) Concise Explanation of Subject Matter in Each Independent Claim, with Page and Figure Nos.

As an initial matter, it is noted that according to the Patent Office, the concise explanations under this section are for Board convenience, and do not supersede what the claims actually state, 69 Fed. Reg. 155 (August 2004), see page 49976. Accordingly, nothing in this Section should be construed as an estoppel that limits the actual claim language.

Claim 1 sets forth a computer system that includes a general purpose computer (18, figure 1, page 6, line 9) that includes logic for mapping data arranged in a source schema (12, figure 1, page 6) into a target schema (16, id.). The logic includes receiving at least one value correspondence, with each value

correspondence representing a function for deriving a value of a target attribute from one or more values of source attributes (figure 2, page 7, line 15 *et seq.*; schematic source and target showing "input value correspondences"). The logic further includes grouping at least value correspondences into potential sets (block 26, figure 2, page 8, lines 12 and 13), and selecting candidate sets from at least some potential sets (block 28, id.). Candidate sets are grouped into covers (block 30, id.) and then covers are used to generate a query representing a source schema-to-target schema mapping (block 32, id.)

The references above are incorporated into this paragraph. Claim 9 recites a computer-implemented method for generating a mapping from a source schema to a target schema. The method includes generating a mapping based on a subset of value correspondences, with each value correspondence representing a function for deriving a value of a target attribute from one or more values of source attributes. Claim 9 also recites allowing a user, in a user interaction, to incrementally add or delete a value correspondence from the subset (e.g., the pruning at block 28, referenced above). A new mapping is generated based on the user interaction (see, e.g., figure 5 and discussion on page 10, lines 5-15). A representation of the new mapping is presented to the user such that the user can view the representation, id., and the user can add or delete a value correspondence embodied in the new mapping to generate another mapping.

The references above are incorporated into this paragraph. Claim 17 sets forth a computer program device has a computer program storage device (e.g., 20, figure 1, page 6, lines 9 and 10) that is readable by a digital processing apparatus, and a program on the program storage device and including instructions executable by the digital processing apparatus for performing method acts for generating a query representing a source schema-to-target schema mapping. The program includes computer readable code means for establishing plural value correspondences (figure 2, page 8, lines 6-11) and computer readable code means

for generating subsets of value correspondences such that (1) each subset has at most one value correspondence per target attribute, (2) for each subset requiring more than one source relation to undertake a mapping, a join path can be found between the relations, and (3) each subset includes at least every value correspondence (logic structure shown in Figures 3 and 4 and discussed on pages 9 and 10). Computer readable code means are also provided for generating a query using one of the subsets, with the query being representative of a source schema-to-target schema mapping (block 32, figure 2, id.)

(6) Grounds of Rejection to be Reviewed on Appeal

Claims 1, 2, 8-11, 17, and 18 have been rejected under 35 U.S.C. §102 as being anticipated by Depledge et al., USPN 5,899,988.

(7) Argument

As an initial matter, it is noted that according to the Patent Office, a new ground of rejection in an examiner's answer should be "rare", and should be levied only in response to such things as newly presented arguments by Applicant or to address a claim that the examiner previously failed to address, 69 Fed. Reg. 155 (August 2004), see, e.g., pages 49963 and 49980. Furthermore, a new ground of rejection must be approved by the Technology Center Director or designee and in any case must come accompanied with the initials of the conferees of the appeal conference, id., page 49979.

The error at the root of the present rejections is failure to comply with MPEP §2111.01 (during prosecution, claims must be construed as broadly as the skilled artisan would construe them). Compliance

with this requirement is a necessary anchor and lodestar in prosecution, because failure to comply results in claim interpretations that are cast adrift from any semblance of real world meaning. Case in point:

The examiner incorrectly equates the present schema mapping technology with the data indexing of Depledge et al., in effect turning an apple into an orange. With greater specificity, Depledge, et. al. is directed to maintaining a "bitmapped" index in a RDBMS having one and only one schema, with the examiner incorrectly equating the relationship between the relational data and its index with the relationship between two different database schemas as prescribed by a mapping. There is no evidence of record, and in fact it is not the case, that the skilled artisan would regard an index in a RDBMS to be one type of "schema" while the data represented by the index is another type of "schema". Moreover, the two things are not even remotely used for the same purpose, because an index structure is built to provide quick access to the underlying data whereas a schema mapping is, on the other hand, a relationship between two or more database schemas that is used to derive a transformation query that translates data represented in one relational schema to data in the other relational schema.

Moreover, contrary to the allegation in the Office Action, Depledge et al. has nothing to do with the grouping of value correspondences. More particularly, grouping two value correspondences such as "Employee.SSN-->Perons.ID" and "Employee.NAME-->Person.NAME" into the same query means constructing a query that moves *pairs* of SSN and NAME value from Employee into Person, whereas a query supported by Depledge et al. (such as SELECT * FROM EMPLOYEE WHERE NAME="John" or NAME="Mary") simply uses a "bitmapped" index to find all the records in EMPLOYEE that either have "John" or "Mary" as their NAME value -- and has nothing with schema mapping.

Accordingly, the content of Depledge et al. that has been relied on as "value correspondences", namely, the columns in the data table of Figure 1, are nothing of the sort, much less are they value correspondences that represent functions for deriving a value of a target attribute from one or more values of source attributes as otherwise required by, e.g., Claim 1. Still further and continuing analysis of Depledge et al. in light of exemplary Claim 1, the relied-upon columns are not grouped into potential sets, because a "bitmap" is not, contrary to the allegation in the rejection, a "grouping" and because an index key cannot even remotely be legitimately considered as a "potential set". That is a false equivalence that finds no support in the prior art. It follows that Depledge et al. when legitimately read as broad as the skilled artisan would read it does not select candidate sets from potential sets or group candidate sets into covers, and as the above explanation and enclosed declaration makes clear, no query representing a source schema-to-target schema mapping is remotely contemplated by Depledge et al.

Further, it should now be clear that Depledge et al., unlike Claim 9, nowhere generates a mapping based on a subset of value correspondences, with each value correspondence representing a function for deriving a value of a target attribute from one or more values of source attributes, much less does it suggest the remaining elements of Claim 9. Likewise, Depledge et al. nowhere establishes value correspondences in contrast to Claim 17 as the term is broadly construed in the art, much less does it generate subsets of value correspondences such that (1) each subset has at most one value correspondence per target attribute, (2) for each subset requiring more than one source relation to undertake a mapping, a join path can be found between the relations, and (3) each subset includes at least every value correspondence. Still further, as outlined above Depledge et al. does not generate a query using one of the subsets, with the query being representative of a source schema-to-target schema mapping.

While the burden is on the examiner to explain why the skilled artisan would render the claim construction he is proferring, Applicant nonetheless will, in a spirit of comity, submit the declaration herein, explaining why the interpretations underpinning the present rejections are untenable from the standpoint of usage in the art and, hence, why they fail to comply with MPEP §2111.01.

Respectfully submitted,

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APPENDIX A - APPEALED CLAIMS

1. A computer system, comprising:

a general purpose computer, the computer including logic for undertaking method acts to map data arranged in a source schema into a target schema, the method acts undertaken by the logic including:

receiving at least one value correspondence, each value correspondence representing a function for deriving a value of a target attribute from one or more values of source attributes;

grouping at least some value correspondences into potential sets;

selecting candidate sets from at least some potential sets;

grouping at least some candidate sets into covers; and

using at least one cover, generating at least one query representing a source schema-to-target schema mapping.

2. The computer of Claim 1, wherein the method acts undertaken by the logic to execute the grouping act include:

grouping value correspondences into potential sets such that, for each potential set, at most one value correspondence per target attribute exists.

8. The computer of Claim 1, wherein the logic incrementally undertakes the acts of grouping value correspondences into potential sets, selecting candidate sets, grouping candidate sets into covers, and generating queries representing mappings.

9. A computer-implemented method for generating a mapping from a source schema to a target schema, comprising:

generating a mapping based on at least a subset of value correspondences, each value correspondence representing a function for deriving a value of a target attribute from one or more values of source attributes;

allowing a user, in a user interaction, to incrementally add or delete a value correspondence from the subset;

based on the user interaction, generating a new mapping;

presenting a representation of the new mapping to the user such that the user can view the representation; and

permitting the user to add or delete a value correspondence embodied in the new mapping to generate another mapping.

10. The method of Claim 9, wherein the generating act includes:

grouping at least some value correspondences into potential sets;

selecting candidate sets from at least some potential sets;

grouping at least some candidate sets into covers; and

using at least one cover, generating at least one query representing a source schema-to-target schema mapping.

11. The method of Claim 10, further comprising:

grouping value correspondences into potential sets such that, for each potential set, at most one value correspondence per target attribute exists.

17. A computer program device comprising:

a computer program storage device readable by a digital processing apparatus; and

a program on the program storage device and including instructions executable by the digital processing apparatus for performing method acts for generating a query representing a source schema-to-target schema mapping, the program comprising:

computer readable code means for establishing plural value correspondences;

computer readable code means for generating subsets of value correspondences such that (1) each subset has at most one value correspondence per target attribute, (2) for each subset requiring more than one source relation to undertake a mapping, a join path can be found between the relations, and (3) each subset includes at least every value correspondence; and

computer readable code means for generating a query using one of the subsets, the query being representative of a source schema-to-target schema mapping.

18. The computer program product of Claim 17, further comprising computer readable code means for sorting the subsets and displaying at least portions of a sorted list of subsets, such that a user can establish a selected subset used to generate the query.

APPENDIX B - EVIDENCE

See attached declaration.